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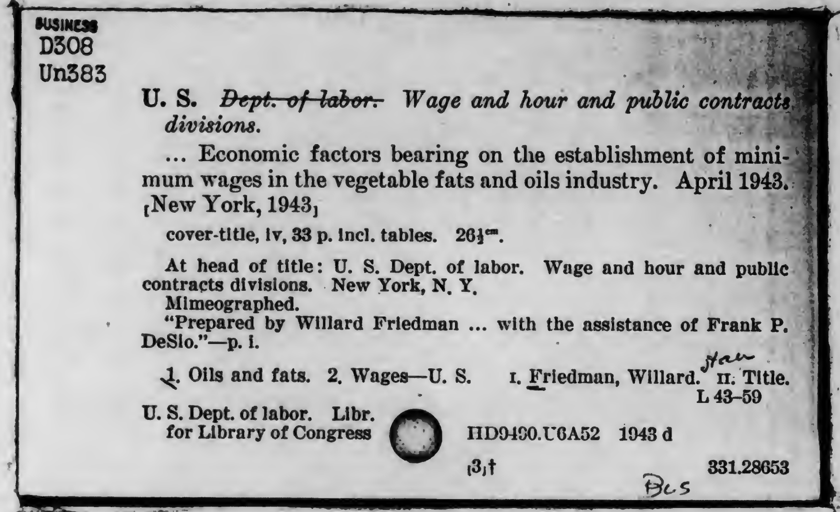

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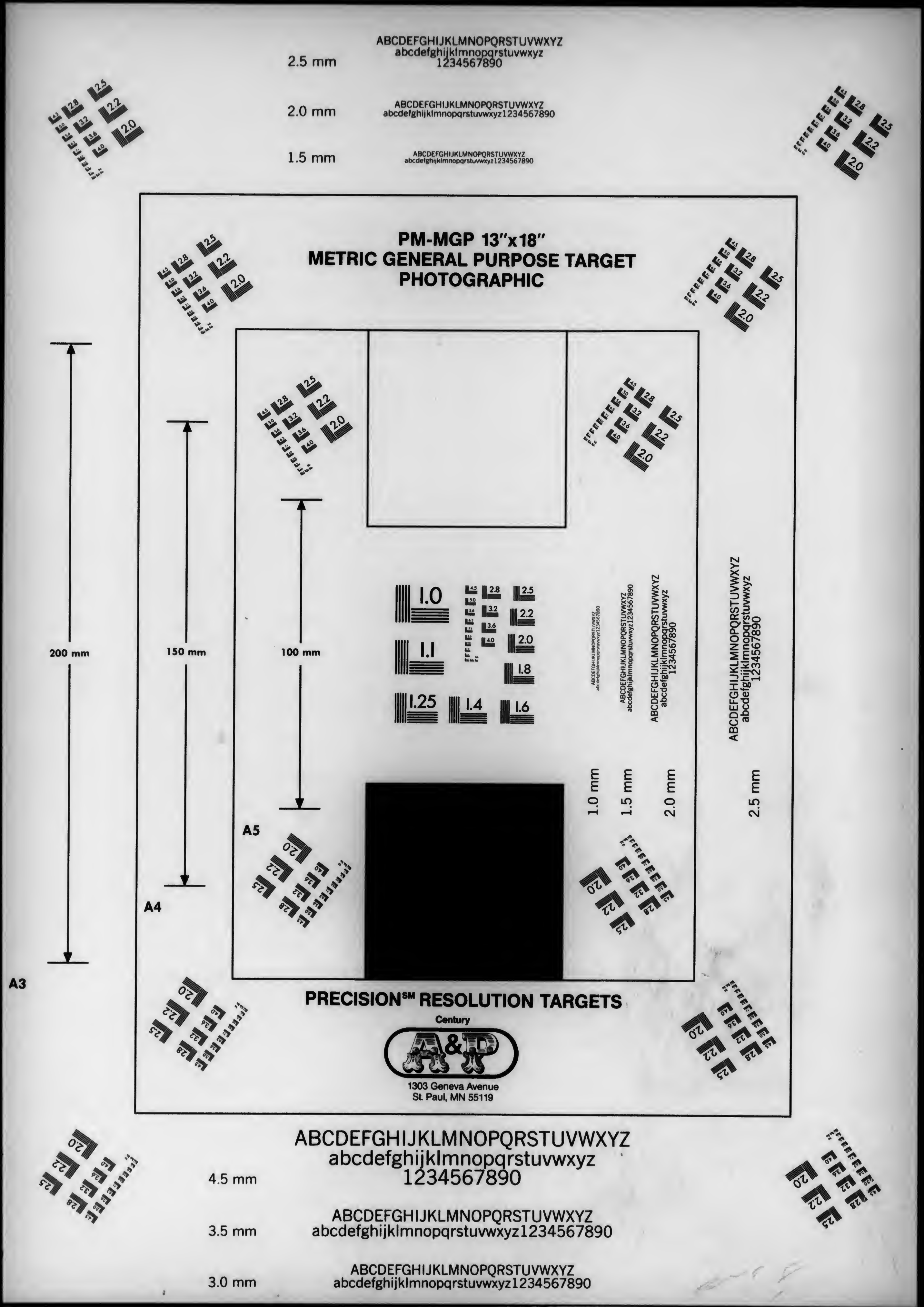

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Wage and Hour and Public Contracts Divisions
New York, New York

Oils & fats [illegible]

Wages – Minimum

ECONOMIC FACTORS BEARING ON THE ESTABLISHMENT OF MINIMUM WAGES IN THE VEGETABLE FATS AND OILS INDUSTRY

April 1943

(12,618)

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FOREWORD

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On April 6, 1943, the Administrator of the Wage and Hour Division, pursuant to the provisions of the Fair Labor Standards Act of 1938, appointed Industry Committee No. 58 for the Vegetable Fats and Oils Industry. It is the statutory duty of this committee to investigate conditions in the industry and, with due regard to economic and competitive conditions, to recommend to the Administrator the highest minimum wage (not in excess of forty cents an hour) which it determines will not substantially curtail employment in the industry. The statistical and other economic data given in the present report have been assembled for the purpose of assisting the industry committee in the performance of its statutory functions.

The report was prepared by Willard Friedman, Associate Economist, with the assistance of Frank P. DeSio, under the general supervision of Verl E. Roberts, Chief of the Industry Committee Studies Section.

Harry Weiss, Director
Economics Branch

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DEFINITION

Administrative Order No. 190 defines the Vegetable Fats and Oils Industry as follows:

A. The extraction of crude oils and fats from vegetable materials (other than cottonseed and peanuts) and the refining and processing of all vegetable fats and oils, including those derived from cottonseed and peanuts, into oleomargarine, cooking and other edible fats and oils, and into inedible fats and oils.

B. The manufacture of the byproducts of the industry including but without limitation hulls, cake, meal and soap stock.

Provided, however, that this definition shall not include the manufacture of the following: essential oils; feeds; nitrated, sulphonated and similarly processed oils; mixtures principally composed of animal fats and oils or containing petroleum; and crude, refined, or processed wood and gum naval stores.

The definition of the Vegetable Fats and Oils Industry covers all occupations in the industry which are necessary to the production of the articles specified in the definition, including clerical, maintenance, shipping, and selling occupations: provided, however, that this definition does not cover clerical, maintenance, shipping, and selling occupations when carried on in a wholesaling or selling department, physically segregated from the other departments of a manufacturing establishment, the greater part of the sales of which wholesaling or selling department are sales of articles which have been purchased for resale; and provided further that where an employee covered by this definition is employed during the same workweek at two or more different minimum rates of pay, he shall be paid the highest of such rates for such workweek unless records concerning his employment are kept by his employer in accordance with applicable regulations of the Wage and Hour Division.

Inclusions and exclusions

The Vegetable Fats and Oils Industry as defined includes the manufacture of all crude vegetable oils 1/ (except peanut and cottonseed oil) which are "fixed" (non-volatile). Some of the more important crude oils produced by the industry are as follows:

1/ Both fats and oils, as they occur in nature, are primarily mixtures of substances which have been termed "glycerides of the fatty acids." The fatty acids, in turn, are so called because of their occurrence in natural fats. The essential difference between fats and oils as these terms are used here is such that an oil may be considered a fat, which is liquid at normal temperature though it may become a solid upon cooling, and a fat may be considered a solid oil at normal temperature though it may become a liquid upon heating.

soybean
olive
linseed
tung
castor
cocoanut
oiticica
perilla
corn
palm kernel
babassu
palm

The processes of extracting oils from seeds, nuts and beans have as a result certain valuable byproducts, the manufacture of which are also included in the industry. The most important of these byproducts are hulls, meal and cake. The industry as defined does not include the grinding of cake into meal and the bagging of meal when the meal is to be sold as a feed or feed ingredient, since such operations are already subject to the Grain Products Wage Order, which became effective March 1, 1943. However, where the meal is ground for fertilizer or for other purposes than the production of feed, the grinding and bagging are considered part of the industry when done by a producer of crude oils.

The production of corn oil and cake, minor products of establishments primarily engaged in manufacturing corn sugar, corn starch and corn syrup, is covered by this industry but the production of the sugar, starch and syrup is not covered.

The industry also includes the refining (which involves the neutralizing and removing of the free fatty acids) of all crude vegetable oils, including peanut oil and cottonseed oil for use in edible products, and their further processing into salad or cooking oils, cooking fats, and oleomargarine. The manufacture and preparation for market of byproducts of refining such as acidulated soap stock is considered within the industry.

The processing of vegetable oils into inedible oils, such as blown and boiled oils, is likewise included. However, where major changes in the chemical composition of the oils occur, as when they are sulphonated or nitrated,1/ or converted into soap or other substances, such chemical processing is not included.

The manufacture of the following is also excluded from the industry:

salad dressings, which are products of the Canned Fruits and Vegetables and Related Products Industry (as defined by Administrative Order No. 132);

crude, refined or processed wood and gum naval stores, including resin oil and pine oil;

cocoa butter, which is a product of the Candy and Related Products Manufacturing Industry (as defined by Administrative Order No. 150).

1/ Sulphonated and nitrated oils are the result of the chemical combination of fats or oils with sulphuric or nitric acid, respectively.

DESCRIPTION OF INDUSTRY

Manufacturing and refining processes

With minor variations the extraction of crude oil from vegetable oilseeds is done in the following manner: as the shipment reaches the crushing mills, it is either stored for later processing or immediately cleaned of the trash which it contains. The cleaned seeds are then crushed by rollers; the crushed material is cooked and then formed for pressing. It is the press that forces the oil out of the meats. The oil runs down the sides of the press into a tank where the fine particles of meal remaining in the oil are allowed to settle. The oil is then piped into storage tanks or directly into tank cars for shipment.

The residue which remains in the press after the oil has been removed is in the form of solid slabs known as vegetable oilseed cake. The cake is usually broken and ground into meal but may be marketed in slab form or as small broken pieces.

Most crude vegetable oils contain a certain amount of free fatty acids (the proportion of which may range from practically zero up to about eight percent of the volume for various kinds and grades of oil), which tend to turn the oil rancid unless removed. Refining crude oil for edible purposes consists of eliminating these fatty acids. This is accomplished by adding caustic soda to the oil, thus changing the free fatty acids into a "soap stock" which settles to the bottom, carrying with it various impurities. After the oil is filtered to eliminate the soap stock, it is edible, but is usually bleached and deodorized to produce cooking oil; winterized and blended to produce salad oil; and hydrogenated to produce cooking fats and margarine.1/ Some crude oils, such as olive and cocoanut oil, are edible without refining. The soap stock is frequently "acidulated," thus reducing its bulk for shipment.

The refining of crude oils for inedible uses (such as paint and varnish) proceeds differently from the refining for edible purposes. For example, linseed oil may be refined for use in paint or varnish by heating to remove moisture and then adding fuller's earth and filtering. Its viscosity may be increased by blowing; that is, forcing air through the oil while it is heated. Its ability to dry rapidly after being spread on a surface is increased by adding traces of various mineral oxides and heating; the result is known as boiled linseed oil.2/

Products

The quantity and value of the products of the industry as shown by the Census of Manufactures for the year 1939 are presented in detail in Table 1. Cooking and other edible fats and oils, the most important group of products, accounted for a little more than half of the total for the products shown. Flaxseed products accounted for 17.3 percent, and soybean 14.1 percent. The percentages for the main groups are shown below:

1/ Thorpe's Dictionary of Applied Chemistry, Volume 3 (1939), page 409.

2/ E. R. Riegel, Industrial Chemistry, (1942), page 540.

Table 1. Vegetable fats and oils industry: Principal products by kind, quantity, and value for the U. S., 1939

Products	Quantity (million pounds)	Value (thousands of dollars)
All products, total	-	379,595
Linseed oil, cake and meal	-	65,615
Linseed oil	565	47,866
Linseed cake and meal	1,102	17,749
Soybean oil, cake and meal	-	53,417
Soybean oil	458	25,028
Soybean cake and meal	2,257	28,389
Cooking and other edible fats and oils not elsewhere classified	-	198,687
Edible vegetable compounds and shortenings	1,382	127,770
Made from vegetable oils only	1,030	99,258
Made from animal and vegetable fats and oils	352	28,512
Vegetable oils	926	70,917
Hydrogenated	200	15,493
Salad and cooking	508	40,377
Refined	218	15,047
Oleomargarine	307	32,248
Composed solely of vegetable oils	252	26,757
Composed of mixtures of animal and vegetable oils and fats	55	5,491
Cocoanut and other vegetable oils b/	-	15,047 a/
Cocoanut oil	n.a.	5,858
Cocoanut cake and meal	n.a.	1,249
All other vegetable oils	n.a.	7,345
All other vegetable cake and meal	n.a.	595
Corn oil	171	12,706
Corn, oil, cake and meal	65	585
Olive oil	833 c/	1,290

Source: Bureau of the Census, Census of Manufactures, 1939

a/ At the request of the Wage and Hour Division, the Census Bureau retabulated data for the 54 establishments in their category "Vegetable and Animal Oils Not Elsewhere Classified." Of the total, 8 were primarily engaged in producing peanut oils, 5 animal oils, 24 cocoanut and other vegetable oils, while 17 establishments with 481 wage earners could not be classified.

b/ Except cottonseed and peanut.

c/ Thousand gallons.

Product	Value of products	Percent of total
Linseed oil, cake and meal	$ 65,615,000	17.3
Soybean " " "	53,417,000	14.1
Cooking and other edible fats and oils n.e.c.	198,687,000	52.3
Oleomargarine	32,248,000	8.5
Cocoanut and other vegetable oils n.e.c.	15,047,000	4.0
Corn oil, cake and meal	13,291,000	3.5
Olive oil	1,290,000	0.3
Total	379,595,000	100.0

Summary Statistics

According to the Census of Manufactures there were 170 establishments employing a yearly average of 13,003 persons (exclusive of firm members and salaried officers of corporations) in the Vegetable Fats and Oils Industry in 1939.1/ Employment during the height of the season was not materially greater than the average employment for the year. The industry paid out approximately $19 millions in wages and salaries, and the value of its products was, as Table 2 shows, approximately $347 millions. Establishments in the cooking and other edible fats and oils branch employed almost half of the workers of the industry. The number of establishments and average number of employees for each branch for the year 1939 were as follows:

Industry branch	Number of establishments	Average number of employees
Linseed oil, cake and meal	25	2,382
Soybean oil, cake and meal	47	1,993
Cooking and other edible fats and oils (n.e.c.)	56	6,366
Oleomargarine - not made in meat-packing establishments	18	1,683
Cocoanut and other vegetable oils 2/	24	579

1/ In addition, vegetable and animal fats and oils are secondary products of plants manufacturing corn syrup, corn oil, corn sugar and starch, meat-packing plants, and olive bottling and canning plants. No data are available concerning the number of employees producing vegetable oils in these plants.

2/ At the request of the Wage and Hour Division the Census Bureau retabulated data for establishments in the Census Classification "Vegetable and Animal Oils Not Elsewhere Classified," for which see Appendix Table 1.

Table 2. Vegetable fats and oils industry: Summary statistics, 1939

Item	Total	Linseed oil, cake and meal	Soybean oil, cake and meal	Cooking and other edible fats and oils (n.e.c.)	Oleomargarine not made in meat-packing establishments	Cocoanut and other vegetable oils a/
Number of establishments b/	170	25	47	56	18	24
Number of employees	13,003	2,382	1,993	6,366	1,683	579
Wage earners (average for year)	9,748	2,120	1,481	4,672	984	491
All other employees c/	3,255	262	512	1,694	699	88
Salaries and wages	18,799	3,735	2,762	8,775	2,639	888
Wage earners (thousand dollars)	12,504	3,193	1,889	5,397	1,295	730
All other employees c/ " "	6,295	542	873	3,378	1,344	158
Cost of materials " "	279,012	56,456	34,435	154,358	21,734	12,029
Value of products " "	347,455	68,012	43,947	186,252	34,102	15,142
Value added by manufacture (thousand dollars)	68,443	11,556	9,512	31,895	12,367	3,113

Source: Bureau of the Census, Census of Manufactures, 1939

a/ At the request of the Wage and Hour Division, the Census Bureau retabulated data for the 54 establishments in their category "Vegetable and Animal Oils Not Elsewhere Classified." Of the total, 8 were primarily engaged in producing peanut oils, 5 animal oils, 24 cocoanut and other vegetable oils, while 17 establishments with 481 wage earners could not be classified.

b/ In addition to the data shown here the Census Bureau reported that there were 12 establishments engaged in the production of corn oil, cake and meal. These establishments manufactured such products valued at approximately $13,000,000, which represented 13.6 percent of the value of products classified in their category "Corn Sirup, Corn Sugar, Corn Oil, and Starch."

c/ Except salaried officers of corporations.

Location of Industry

In 1939, vegetable fats and oil establishments were scattered through 31 of the 48 states (Tables 3 to 6 and Appendix Table 1.). The individual branches of the industry, however, show some regional concentrations.

Both soybean oil and linseed oil establishments are, in the main, located in the northern states. Nine states in the Middle Atlantic and North Central regions contained 11 of the 25 linseed oil, cake and meal establishments. (Table 3.) The most important state in this branch was Minnesota, which employed 17.9 percent of the wage earners. The soybean oil, cake and meal establishments are concentrated in four North Central states, where 58.3 percent of the wage earners of the branch were employed. Illinois establishments alone had 26.5 percent of the wage earners. (Table 4.)

Cooking and other edible fats and oils are made largely from refined cottonseed oil, and most of the establishments are located in the cotton growing and cottonseed crushing states of the South. Texas, which in 1939 was the principal producer of cottonseed and crude cottonseed oil, also had the largest number of wage earners engaged in manufacturing cooking and other edible fats and oils. The four southern states of Texas, Tennessee, Georgia and Virginia together employed about 40 percent of the total number of wage earners. As Table 5 shows, other important states were New Jersey, New York and California.

According to the special tabulation made by the Census Bureau for the Wage and Hour Division, half the cocoanut and other vegetable oil establishments are located on the Pacific Coast. The other half were widely scattered, some being located in southern states.

Establishments in which corn oil is produced as a secondary product are located principally in the North Central States.

Channels of distribution

In the Vegetable Fats and Oils Industry in 1939, about 40 percent of the manufacturers' sales, as measured by value, were made to or through the manufacturers' own wholesale branches and retail stores (Table 7). Wholesalers and jobbers purchased slightly more than one-fourth of the products sold, and industrial and other users accounted for another quarter.

The cooking and other edible fats and oils branch distributed almost two-thirds of its products to or through its own wholesale branches and retail stores. Oleomargarine establishments sold about 60 percent of their products to wholesalers and jobbers, while linseed and soybean oil mills, as well as those manufacturing other vegetable and animal oils, sold more than half of their products to industrial and other users for further processing.

Table 3. Linseed oil, cake and meal branch:
Number of establishments and wage earners,
by state, 1939

State	Number of establishments	Number of wage earners: Average for year	Number of wage earners: Percent of total	Number of wage earners in maximum month
United States	25	2,120	100.0	2,303
New York	3	179	8.4	245
Minnesota	5	379	17.9	462
California	4	113	5.6	152
Other states a/	13	1,444	63.1	1,444 b/

Source: Bureau of the Census, Census of Manufactures, 1939

a/ Includes establishments distributed by state as follows:

New Jersey	3	Wisconsin	1
Pennsylvania	2	Missouri	1
Ohio	1	Kansas	1
Illinois	2	Oregon	2

b/ Average for year.

Table 4. Soybean oil, cake and meal branch: Number of establishments and wage earners, by geographic division and state, 1939

Geographic division and state	Number of establishments	Number of wage earners: Average for year	Number of wage earners: Percent of total	Number of wage earners in maximum month
United States	47	1,481	100.0	1,748
North Central states a/	30	864	58.3	1,131
Ohio	7	164	11.1	248
Indiana	3	180	12.1	225
Illinois	14	392	26.5	500
Iowa	6	128	8.6	158
All other states b/	17	617	41.7	617 c/

Source: Bureau of the Census, Census of Manufactures, 1939

a/ Wage earners in 8 establishments located in 5 additional North Central states are included in "All other states."

b/ Includes establishments distributed by state as follows:

North Central states		Other states	
Michigan	3	Virginia	2
Wisconsin	1	North Carolina	1
Minnesota	1	Kentucky	1
Missouri	1	Tennessee	1
Nebraska	2	Washington	1
		New York	3

c/ Average for year.

Table 5. Cooking and other edible fats and oils (n.e.c.) branch: Number of establishments and wage earners, by state, 1939

State	Number of establishments	Number of wage earners: Average for year	Number of wage earners: Percent of total	Number of wage earners in maximum month
United States	56	4,673	100.0	5,062
New York	5	376	8.0	385
New Jersey	3	506	10.8	543
Southern states a/	24	1,834	39.3	2,158
Virginia	4	155	3.3	175
Georgia	4	446	9.6	486
Tennessee	6	581	12.4	676
Texas	10	652	14.0	821
California	7	425	9.1	444
Other states b/	17	1,532	32.8	1,532 c/

Source: Bureau of the Census, Census of Manufactures, 1939

a/ Wage earners in 8 establishments located in 6 additional southern states are included in "Other states."

b/ Includes establishments distributed by regions and states as follows:

North Eastern 2		North Central 6		Southern 8		West 1	
Rhode Island	1	Ohio	2	North Carolina	1	Oregon	1
Pennsylvania	1	Indiana	1	Florida	2		
		Illinois	2	Kentucky	1		
		Missouri	1	Mississippi	1		
				Arkansas	1		
				Lousiana	2		

c/ Average for year.

Table 6. Oleomargarine branch: a/ Number of establishments and wage earners, by state, 1939

State	Number of establishments	Number of wage earners: Average for year	Number of wage earners: Percent of total	Number of wage earners in maximum month
United States	18	984	100.0	1,004
Ohio	3	78	7.9	85
Illinois	4	366	37.2	379
Other states b/	11	540	54.9	540 c/

Source: Bureau of the Census, Census of Manufactures, 1939

a/ Oleomargarine not made in meat-packing establishments.

b/ Includes establishments distributed by state as follows:

New Jersey	1	Indiana	1	Maryland	1	California	3
		Michigan	1	Alabama	1		
		Missouri	1	Texas	2		

c/ Average for year.

Table 7. Vegetable fats and oils industry: Distribution of value of manufacturers' sales, by industry branch, and by outlet to or through which sales are made, 1939

Industry branch	All outlets	Outlets owned and operated by manufacturers (wholesale branches and retail stores)	Outlets not owned and operated by manufacturers		
			Wholesalers and jobbers a/	Retailers	Industrial and other users
	(in thousands of dollars)				
All industry branches, total b/	314,974	125,905	88,051	17,598	83,420
Linseed oil, cake and meal	64,264	8,157	22,029	668	33,410
Soybean oil, cake and meal	44,146	c/ d/	10,935 c/	5,668 d/	27,543
Cooking and other edible fats and oils n.e.c.	175,126	112,334	35,959	5,051	21,782
Oleomargarine not made in meat-packing establishments	31,438	5,414	19,128	6,211	685
Corn syrup, corn sugar, corn oil and starch	117,304	e/	70,616 e/	e/	46,688
Other vegetable and animal oils	33,085	7,963	3,231	2,623	19,268
	(in percent)				
All industry branches, total	100.0	39.9	28.0	5.6	26.5
Linseed oil, cake and meal	100.0	12.7	34.3	1.0	52.0
Soybean oil, cake and meal	100.0	c/ d/	24.8 c/	12.8 d/	62.4
Cooking and other edible fats and oils n.e.c.	100.0	64.1	20.5	2.9	12.5
Oleomargarine not made in meat-packing establishments	100.0	17.2	60.8	19.8	2.2
Corn syrup, corn sugar, corn oil and starch	100.0	e/	60.2 e/	e/	39.8
Other vegetable and animal oils	100.0	24.1	9.7	7.9	58.3

Source: Bureau of the Census, Census of Business, 1939

a/ Including export intermediaries and direct export to buyers in foreign countries.

b/ Excludes corn syrup, corn sugar, corn oil, and starch, and vegetable and animal oils not elsewhere classified.

c/ Sales to own wholesale branches combined with sales to wholesalers and jobbers.

d/ Sales to own retail stores combined with sales to retailers.

e/ Sales to own wholesale branches, and to retailers combined with sales to wholesalers and jobbers. No sales made to own retail stores.

ECONOMIC AND COMPETITIVE CONDITIONS

Use of products and competing products

Vegetable fats and oils have been used for a wide variety of products both edible and inedible. Competition for particular products is extensive although typically the market is dominated by one or another material. Thus, the oils used in cooking and salad oils, salad dressings and mayonnaise were exclusively vegetable; those used in shortening and oleomargarine were mainly vegetable but some animal fats and oils were used; the oils and fats used for soap were mainly of animal origin though vegetable oils were important (Table 8).1/ Lard, which is the principal competitor of vegetable oils for the shortening market, does not go through a stage of intermediate processing, and accordingly, is not shown in Table 8. At the present time, the use of oleomargarine in competition with butter is increasing.

Competition among the various vegetable fats and oils is even greater than between animal and vegetable fats and oils. As is shown in Table 9, cottonseed and soybean oil are both used extensively in the manufacture of oleomargarine and shortening; corn oil and cottonseed oil are both important in salad dressing and mayonnaise manufacture. Cottonseed oil dominates the cooking and salad oils market.

More than half the cocoanut oil consumed was used for soap in competition with animal fats (appendix Table 2). Linseed oil has, until recently, been used in the manufacture of inedible products such as paint, varnish, linoleum and oilcloth. However, its use in making shortening is presently being considered by the War Food Administration.

The crushers also faces competition in the sale of cake and meal products which rank second to oil in importance to their group. Cottonseed and peanut cake and meal are exceedingly rich in protein and are used principally for animal feed, supplementing grain and fodders relatively deficient in protein. As high protein concentrates, they compete with meals derived from other oilseeds, particularly flaxseed and soybeans.2/ Competition is, however, lessened because of transportation costs, each type of meal enjoying an advantage in and near the area where it is produced. The cake and meal residue from certain oilseeds such as tung nuts and castor beans is inedible and is used mainly for fertilizer.

1/ The use of certain edible oils for the manufacture of inedible products was prohibited by FDO 42 as is shown elsewhere in this report.

2/ It is to be noted that the manufacture of all feed meals from oilbearing seeds or nuts is presently subject to the minimum wage order for the Grain Products Industry, which became effective March 1, 1943.

Table 8. Factory consumption of animal and vegetable fats and oils for specified products, fourth quarter of 1942

Product	Total	Animal, (including marine)	Vegetable
		million pounds	
Shortening	320	31	289
Cooking and salad oils	130	-	130
Mayonnaise and salad dressings	54	-	54
Oleomargarine	103	3	100
Other edible products	15	2	13
Soap	427	393	34
Paint and varnish	110	5	105

Source: Appendix table 2. Data from the U. S. Department of Commerce, Bureau of the Census.

Table 9. Factory consumption of specified refined oils by class of product, fourth quarter of 1942

(Thousands of pounds)

Class or product	Cotton-seed oil	Peanut oil	Soybean oil	Corn oil
All products	392,221	11,355	163,361	25,826
Shortening	184,079	6,236	91,882	294
Oleomargarine	55,773	126	44,223	446
Cooking and salad oils	115,857	2,004	10,584	1,604
Mayonnaise and other salad products	27,157	-	4,695	21,890
Other edible products	7,217	1,646	2,951	1,135
All other products	2,138	1,343	9,026	457

Source: Appendix table 2. Data from the U. S. Department of Commerce, Bureau of the Census.

Recent Production Trends

The facts of the unprecedented demand for all kinds of fats and oils at this time are too well known to require much elaboration. A great expansion of consumer purchasing power, of special war demands and of demands made by other nations on our production has developed at the same time that our normal imports of oil and oilseeds have been partly or completely cut off.

As a result of these various factors, the demand for fats and oils in 1943 will be greater than the amount available. Without direct consumer rationing, there would be about 46 pounds of food fats and oils per capita available for civilian consumption, including indirect consumption of fats in such manufactured products as bread, cake, confectionery, salad dressings and canned soups. [1] Consumption averaged 48 pounds per capita in the period 1935-1939 and 50 pounds per capita in 1940-42. Hence consumption in 1943 would not be greatly below the average for recent years. However, the Bureau of Agricultural Economics has estimated that on the basis of past relationships between consumption, price, industrial workers' income, and prices of competing products, consumers would take about 57 pounds per capita in 1943 at present ceiling prices if such a quantity were available. [2]

The supply of all animal and vegetable fats and oils for 1943 is tentatively estimated by the Department of Agriculture as follows:

Total	14.5	billion	pounds
Production from domestic materials	11.7	"	"
Imports, including oil in seed	0.8	"	"
Factory and warehouse stocks, January 1	2.0	"	"

The probable disposition is estimated as follows:

Total	14.5	billion	pounds
Military use, lend-lease experts, commercial exports, and shipments to United States territories	2.6	"	"
Civilian nonfood use under general limitation order	3.2	"	"
Civilian food use under general limitation order, together with available butter and lard	6.0	"	"
Factory working stocks, end of year	2.0	"	"
Government contingency reserve, end of year	0.7	"	"

In addition 18 to 20 million bushels of soybeans in excess of crushing needs, equivalent to 150 to 200 million pounds of oil, may be held as a reserve for foreign or domestic contingency needs.

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[1] U.S. Department of Agriculture, Bureau of Agriculture Economics, *The Fats and Oils Situation*, March 1942, p. 3.

[2] Ibid. December 1942, p. 11.

Present shortages occur in spite of a considerable rise of domestic production of animal and vegetable fats and oils in recent years; in 1942 a new high level of 10 billion pounds was established. The 600 million pound increase over 1941 production was distributed about equally between vegetable and animal fats and oils. In spite of the fact that "domestic disappearance" (apparent consumption) was half a million pounds lower in 1942 than in 1941, it continued to run ahead of production. (Table 10)

Table 10. Production of animal and vegetable oils from domestic materials and total domestic disappearance, all fats and oils, United States, 1937-42

Year	Production from domestic materials: Animal fats and oils (including marine)	Vegetable oils	Total	Total domestic disappearance, all fats and oils
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.
1937	4,865	2,133	6,998	9,228
1938	5,405	2,369	7,774	9,048
1939	5,870	2,340	8,211	9,631
1940	6,346	2,435	8,781	9,785
1941	6,573	2,815	9,388	10,988
1942 a/	6,846	3,188	10,034	10,453

Source: Fats and Oils Situation, March 1943. Production compiled from reports of the Bureau of the Census, Bureau of Agricultural Economics, Food Distribution Administration, and Fish and Wildlife Service. Total domestic disappearance computed from data on production, trade (Bureau of the Census), and stocks (Bureau of the Census and Food Distribution Administration).

a/ Preliminary.

Among the vegetable oils, the greatest increase during the last three years occurred in the production of linseed and soybean oils, with peanut oil running far below earlier expectation. Production (in million pounds) of a number of the more important vegetable oils was as follows: 1/

Kind of oil	1940	1941	1942
Cottonseed oil	1274	1392	1386
Peanut oil	84	150	76
Soybean oil	533	586	762
Linseed oil	606	868	960
Corn oil	158	203	248
Total, 5 oils	2655	3199	3432

1/ For more complete data see Appendix Table 3.

The Japanese invasion of the Pacific area, which cut off supplies formerly imported from the Philippines, Netherland East Indies and China, resulted in a sharp drop in the domestic use of cocoanut, palm and tung oil. The apparent disappearance, (in million pounds), of these oils during the last three years was as follows:

Kind of oil	1940	1941	1942
Cocoanut	598	726	202
Palm	181	292	131
Tung	68	70	17

In order to stimulate the production of oilseeds, the Department of Agriculture prior to the 1942 season announced its intention to support oilseed prices. Farmers responded to the support price program by planting record acreages of peanuts, soybeans and flaxseed. The results of the program are shown in Table 11. As will be noted, the harvest of soybeans as of December 1 was expected to run almost three times as large as the average for the period 1937 through 1941. The slight decline in the production of cottonseed was more than compensated for by the increased production of peanuts. Total crude oil production based on the 1942 crop is expected to exceed the average for the years 1937-41 by 40 percent. The table also shows the goals set by the Department of Agriculture for 1943, calling for further increases in total oil production. 1/

Table 11. Oil crops and oil: Revised production goals for 1943, with comparative data

Commodity	Unit	Average 1937-41	1942 (as indicated Dec. 1)	1943 goal a/
		Oil Seed Production		
Cottonseed	1,000 tons	5,876	5,790	4,972
Flaxseed	1,000 bu.	19,713	40,660	39,875
Peanuts, picked and threshed	Mil. lb.	1,392	2,504	3,712
Soybeans, harvested for beans	1,000 bu.	76,447	209,559	216,000
		Crude oil produced crop year basis b/		
Cottonseed oil	Mil. lbs.	1,474	1,445	1,250
Linseed oil	" "	656	730	715
Peanut oil	" "	87	200	600
Soybean oil	" "	500	1,440	1,600
Total		2,717	3,815	4,165

Source: U.S. Department of Agriculture, Fats and Oils Situation, February 1943, p. 10 (Compiled from reports of the Bureau of Agricultural Economics and Bureau of the Census.)

a/ Acreage goals multiplied by assumed "normal" yields of 442 pounds of cottonseed and 7.25 bushels of flaxseed per planted acre; 675 pounds of peanuts and 18 bushels of soybeans per harvested acre.

b/ Crop years beginning August for cottonseed oil; July for linseed oil; October for peanut oil and soybean oil. In calculating oil production from 1942 and 1943 crops, deductions have been made to allow for the use of seed for planting, feed, fertilizer and human consumption.

1/ Canadian farmers have been asked to increase flaxseed plantings by a million acres. (Journal of Commerce, April 5, 1943.)

It will be noted that the 1943 goal provided for a small decline in the production of cottonseed. On the other hand a considerable increase in the production of peanuts is planned, plantings of which are to be distributed as follows:

Virginia, North Carolina	650,000 acres
Southeastern Region	2,805,000 acres
Southwestern Region	2,020,000 acres
California, New Mexico	25,000 acres

Thus, cottonseed oil mills in the south should in many instances be able to increase their oil production, relying for the increase on peanuts instead of cottonseed.

Price Supports

In order to assure to farmers the minimum prices previously announced by the Secretary of Agriculture, to facilitate the processing of the huge 1942 oilseed crop and to insure adequate future production, the Commodity Credit Corporation was given authority 1/ over the production and marketing of oilseed (cottonseed, peanuts, flaxseed and soybeans) and oilseed products.

Accordingly, during August of 1942, the Corporation began to sign contracts with crushers providing:

a. That the crushers purchase cottonseed, soybeans, peanuts and flaxseed at specified prices. 2/

b. That, in case the crushers are unable to sell their output to the trade, the CCC would purchase the crude oil and meal from the crushers at ceiling prices (less deductions for handling charges) set by the OPA.

The Corporation also financed loans to farmers at support prices on properly stored flaxseed and soybeans. The minimum prices which contracting crushers were required to pay for specified grades of cottonseed, flaxseed and soybeans were as follows:

1/ Directive Order No. 7 issued August 15, 1942 by the War Production Board.

2/ Prices of peanuts for oil were also supported by direct purchase made by Cooperative Marketing Associations backed by the CCC at prices specified by the Agricultural Marketing Administration (now the Food Distribution Administration).

Best grade cottonseed at gins in	
Texas, Oklahoma and New Mexico	$49.00 per ton
Elsewhere.....................	50.00 " "
No. 1 flaxseed, Minneapolis.....	2.40 per bushel
No. 1 or No. 2 high oil, green or yellow soybeans	
At producers' normal delivery points......................	1.60 per bushel 1/
from country elevators.......	1.63 " " "

The prices set by the Agricultural Marketing Administration for quota peanuts averaged about $124 per ton and for non-quota peanuts $80 per ton.

Support prices set for the 1943 crop will probably be far in excess of the 1942 prices. On April 8 support prices averaging from $130 to $140 per ton for various grades of farmers' stock peanuts were announced by the Department of Agriculture. The support price for yellow soybeans having 14 percent moisture was set at $1.80 per bushel while that for flaxseed (U. S. No. 1 basis Minneapolis) will be $2.85 per bushel.

The Commodity Credit Corporation has signed contracts with refiners of cottonseed, soybean and peanut oils in which it agreed to buy crude oil from the refiners at ceiling prices and to sell the crude oil back to the refiners at ½ cent under the ceiling prices, providing that the refiners, in turn, agreed to pay designated prices to crushers under contract with CCC. This action was taken to permit lower maximum wholesale prices for shortening and refined oil without unduly reducing processors' margins or lowering prices paid by crushers for oilseeds. 2/ Similar intervention is expected for the 1943 season.

Price Ceilings

Effective December 13, 1941 maximum prices were set by the OPA under Price Schedule 53 for all fats and oils except butter and finished fats. The ceiling prices were set at the sellers' highest prices in similar transactions on November 26, 1941. On January 2, 1942 new ceiling prices were set at 11 percent above the November 26 maximum or at the highest price on October 1, 1941, whichever was higher. An additional three-quarters of a cent per pound was allowed on linseed and soybean oil. Subsequently linseed oil was exempted from the ceiling. Earlier general price formulae were replaced by specific maximum prices, at which level they have, on the whole, remained. The ceiling prices as of April 27, 1943 for some of the more important fats and oils are shown in Table 12.

Vegetable oil byproducts are also under price ceilings. Specific ceilings for linters and hulls became effective August 1, 1942 under Maximum Price Regulation 191, while oilseed cake and meal prices were limited to the maximum of March 1942 under the General Maximum Price Regulation.

Production and Distribution Controls

The United States Department of Agriculture, through the Director of Food Distribution, has within the last few months issued a series of orders which enable it to allocate the output and to control the use of crude and refined fats and oils. Any person using or receiving the fats and oils affected by these

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1/ With cumulative addition of 1 cent per bushel on the first of each month from January to June.

2/ Fats and Oils Situation, January 1943, p. 10.

Table 12. Maximum wholesale prices for specified fats and oils, April 27, 1943

Oil or fat	Maximum price per lb.	Applicable regulation
	cents	
Cottonseed oil, tank cars		
Crude, mills in North Carolina, South Carolina and Tennessee	12.75	Collation No. 1, RPS 53
Prime summer yellow, New York	13.95a/	"
Peanut oil, crude, tank cars, S.E. mills	13.00a/	"
Soybean oil, tank cars:		
Crude, Midwestern mills	11.75	"
Refined, deodorized and bleached, New York	13.41a/	"
Corn oil, crude, tank cars M.W. mills	12.75	"
Cocoanut oil, crude, manila bulk c.i.f. New York	8.35	"
Linseed oil	none	exempt by G.M.P.R.
Refined oils, specified brands, drums		
Salad oils, N. and S. points	16.50	Collation No. 1, RPS 53
Cooking oil, North points	16.00	"
Oleomargarine, dom. veg. Chicago	19.00	Gen. Max. Pr. Reg.
Lard, standard commercial, refined, Chicago tierces	14.55b/	Collation No. 1, RPS 53
Hydrogenated veg. shortening, specific brands, in drums	18.75	"
Butter, 92-score, Chicago	46.00	M.P.R. 289

a/ Maximum price for non-food use is one-half cent per pound higher.

b/ Maximum price for edible lard is one and one-half cent higher.

orders must receive specific authorization to do so from the Director of Food Distribution. 1/ Corn, cottonseed, peanut, and soybean oils were placed under direct allocation to refiners and manufacturers by the Food Distribution Administration beginning April 16, 1943 (FDO-29). The stated purpose of these actions was to assure an adequate supply and efficient distribution of these primary oils to manufacturers. 2/

Under Food Distribution Order 42, effective April 1, 1943, which superseded General Preference Order M-71 of the War Production Board, the use of fats and oils for civilian manufacture in any quarter beginning with the last quarter of 1942 was limited by the Food Distribution Administration to the following percentages of the average use in the corresponding quarters of 1940 and 1941:

Product	Percent
Oleomargarine	180
Other edible finished products	88
Soap from primary fats	84
Soap from foots	100
Paints, varnishes, lacquers and other protective coatings, and coated fabrics and linoleum	50
Printing inks	90

The use of certain specified fats and oils, including butter, lard, cottonseed oil, peanut oil, soybean oil and corn oil was prohibited entirely in the manufacture of all products in the above schedule except oleomargarine and other edible finished products. The use of fats in the preparation of products for the Army, Navy, War Shipping Administration, lend lease procurement, and commercial export under license was exempted. The quotas in the schedule, if combined, would average somewhat less than 100 percent of the base period use for the industries covered.

1/ The oils affected by the Food Distribution Orders are as follows: Cottonseed, peanut, soybean and corn oil, FDO-29, (8 FR 2915); cocoanut, babassu and palm kernel oil, FDO 43 and 46, (8 FR 4150, 4230); tung oil, FDO-39, (8 FR 3482); palm oil, FDO-38, (8 FR 3482); sperm oil, FDO-37, (8 FR 3481); cashew nut shell liquid, FDO-36, (8 FR 3480); rapeseed and mustard seed oil, FDO-35, (8 FR 3478); castor oil, FDO-32, (8 FR 3473); oiticica oil, FDO-31, (8 FR 3471).

2/ In addition, the F.D.A. and C.C.C. and other government agencies have initiated a variety of other controls that affect among other things the use of materials, the maintenance of stocks, importation and transshipment.

Survey of Hourly Earnings

The information on earnings of employees in the Vegetable Fats and Oils Industry presented in the following discussion is based on a questionnaire survey conducted by the Economics Branch of the Wage and Hour and Public Contracts Divisions. Pay roll transcriptions of hours and earnings of individual employees for a week during October 1942 were requested of all establishments listed in industrial and trade directories. Statistically adequate returns were received from 112 separate establishments with 8,000 employees. This represents 62% of the employment in the industry as reported by the Bureau of the Census for 1939. On the whole the completed questionaires gave evidence of a high level of accuracy in following the instructions, although a number of the schedules required routine adjustments. Every branch of the industry was satisfactorily represented in regard to regional distribution and size of establishment.

Average hourly earnings for the employees of the reporting establishments of the industry were 74.9 cents per hour. As Table 13 shows, the branch averages ranged from 57.0 cents per hour for employees producing oleomargarine to 95.6 cents per hour for those processing "other" vegetable oils. Earnings in the largest branch of the industry, cooking and other edible fats and oils, averaged 73.6 cents per hour.

Hourly earnings by regions are shown in Table 14. It will be observed that the lowest average hourly earnings (54.8 cents) are found in the Southeast and South Atlantic states, while the highest (92.6 cents per hour) are found in the Pacific Coast states.

Estimated Direct Effects of Various Possible Minimum Wage Rates

Percentage of employees directly affected; The proportion of employees who would be directly affected by the adoption of various minimum wage rates, listed separately by industry branch, is also shown in Table 15. It will be seen that for the industry as a whole a 34 cent minimum, for example, would require a direct wage bill increase for seven-tenths of one percent of the employees, a 38 cent minimum, 2.1 percent, and a 40 cent minimum, 3.4 percent.

On the basis of industry branches, direct wage bill increases would be required for 1.1% of the employees in the cooking and other edible fats and oils branch if a rate of 34 cents, for example, were established, 3% for a 38 cent rate, and 5% for a 40 cent rate. While an increase to 40 cents would effect 7.3% of the employees processing oleomargarine, only a small number of workers would be involved. Wage bill increases for the other products of the industry would affect less than one-half of 1 percent of the employees.

An analysis is made in Table 14 of the direct effects in various regions for the industry as a whole. Only the rate of 40 cents per hour is used in this table, as lower rates would not adequately illustrate the effects of increases. It is to be noted that the direct effect would be greatest in the Southeast and South Atlantic states, where 11.8% of the employees were earning less than 40 cents per hour. A further analysis showing the effect by regions is made for the cooking and other edible fats and oils branch in Table 16. The greatest increase, it will be seen, would occur in the South-

Table 13. Vegetable fats and oils industry: Cumulative percentage distribution of employees according to average hourly earnings, by industry branch

Average hourly earnings (cents)	All branches	Crude soy-bean oil	Crude and refined linseed oil	Olive oil	Other vege-table oils	Cooking and other edible fats and oils	Oleomar-garine
Less than							
30	0.1	0.1	0	0	0	0.1	0
31	0.5	0.1	0.2	0	0	0.7	0
32	0.5	0.1	0.2	0	0	0.7	0
33	0.7	0.1	0.2	0	0	1.0	0
34	0.7	0.1	0.3	0	0	1.1	0
35	0.8	0.1	0.5	0	0	1.1	0
36	1.7	0.3	0.5	0	0	2.4	4.2
37	1.8	0.3	0.5	0	0	2.6	4.2
38	2.1	0.3	0.5	0	0	3.0	4.2
39	3.4	0.3	0.5	0	0	5.0	7.3
40	3.4	0.4	0.5	0	0	5.0	7.3
45	9.9	5.0	3.1	10.3	0.4	12.6	20.5
50	18.0	7.6	3.1	10.3	0.4	24.1	37.5
55	27.1	23.3	3.8	28.2	0.9	32.5	57.1
60	32.3	29.5	6.4	43.6	1.1	38.0	62.9
65	39.9	40.8	11.7	77.8	3.2	44.5	73.7
70	45.1	46.1	21.9	87.2	8.0	49.1	78.4
75	53.0	61.5	34.0	92.3	11.6	54.9	83.8
100	81.9	92.4	80.2	98.3	72.5	78.9	95.4
More than 100.0	18.1	7.6	19.8	1.7	27.5	21.1	4.6
Number of establishments in sample	112	23	16	6	14	48	5
Number of employees in sample	8,000a/	1,480b/	869c/	117	535	4,740	259
Average hourly earnings (cents)	74.9	70.9	83.7	61.2	95.6	73.6	57.0

Source: Questionnaire survey conducted by the Wage and Hour and Public Contracts Divisions.

a/ Includes 342 employees earning more than 40 cents an hour not distributed according to average hourly earnings.

b/ Includes 79 employees earning more than 40 cents an hour not distributed according to average hourly earnings.

c/ Includes 263 employees earning more than 40 cents an hour not distributed according to average hourly earnings.

Table 14. Vegetable fats and oils industry: Percent of employees affected by, and percent increase in wage bills resulting directly from, the establishment of a 40-cent minimum, by regions.

Region	Number of establishments in survey	Percent of establishments with employees earning less than 40¢	Number of employees in survey	Average hourly earnings (cents)	Percent of employees earning less than 40¢	Percentage increase in wage bill resulting directly from minimum rate of 40¢
United States, Total	112	18.8	8,000	74.9	3.4	0.2
Middle Atlantic a/	22	18.2	1,843	90.4	0.9	*
North Central b/	39	7.7	2,618	79.1	0.1	*
Southwestern c/	13	46.2	1,076	56.6	4.8	0.4
Southeast and South Atlantic d/	19	42.1	1,624	54.8	11.8	1.0
Pacific e/	19	0	839	92.6	0	-

Source: Questionnaire survey conducted by the Wage and Hour and Public Contracts Divisions. The data relate to October 1942.

a/ Includes: New Jersey, New York and Pennsylvania
b/ Includes: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, and Ohio
c/ Includes: Arkansas, Louisiana and Texas
d/ Includes: Alabama, Florida, Georgia, Kentucky, Maryland, Mississippi, North Carolina, Tennessee and Virginia
e/ Includes: California

* Less than 0.05 percent.

Table 15. Vegetable fats and oils industry: Percent of employees affected by the adoption of various minimum hourly wage rates, by industry branch

Minimum hourly wage rate (cents)	All branches	Crude soybean oil	Crude and refined linseed oil	Olive oil	Other vegetable oils	Cooking and other edible fats and oils	Oleomargarine
31	0.5	0.1	0.2	0	0	0.7	0
32	0.5	0.1	0.2	0	0	0.7	0
33	0.7	0.1	0.2	0	0	1.0	0
34	0.7	0.1	0.3	0	0	1.1	0
35	0.8	0.1	0.5	0	0	1.1	0
36	1.7	0.3	0.5	0	0	2.4	4.2
37	1.8	0.3	0.5	0	0	2.8	4.2
38	2.1	0.3	0.5	0	0	3.0	4.2
39	3.4	0.3	0.5	0	0	5.0	7.3
40	3.4	0.4	0.5	0	0	5.0	7.3
Number of establishments in survey	112	23	16	6	14	48	5
Number of employees in survey	8,000	1,480	869	117	535	4,740	259
Average hourly earnings (cents)	74.9	70.9	83.7	61.2	95.6	73.6	57.0

Source: Questionnaire survey conducted by the Wage and Hour and Public Contracts Divisions. The data relate to October 1942.

Table 16. Cooking and other edible fats and oils branch: Number of employees earning less than 40 cents an hour, by regions

Region	Number of establishments in survey	Number of establishments with employees earning less than 40¢ per hour	Number of employees in survey	Percent of employees earning less than 40¢ per hour
United States	48	14	4,740	5.0
South East and South Atlantic States	13	8	1,261	15.2
Southwestern States	10	4	971	3.3
Other	25	2	2,508	0.5

Source: Questionnaire survey conducted by the Wage and Hour and Public Contracts Divisions. The data relate to October 1942.

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east and South Atlantic states, where 15.2% of the employees would be affected by a 40 cent minimum.

Direct wage bill increases; Perhaps more important from the employers' point of view, than the percentage of workers affected by any given minimum is the amount of additional wages the employer would have to pay. For the entire industry, the wage bill would be directly increased (allowing for only such increases as are required to raise all employees earning below a given minimum up to that minimum) by only two tenths of one percent if a 40-cent minimum were established.

The percentage wage bill increase by branch, as shown in Table 17, indicates that the adoption of a 40-cent minimum, for example, would require a direct wage bill increase of three tenths of one percent for the cooking and other edible fats and oil branch, and two tenths of one percent for the oleomargarine branch. Estimates of direct wage bill increase by regions, (Table 14) indicate that for the industry as a whole, establishments in the Southeast and South Atlantic states would sustain the greatest increase, if a 40-cent minimum were adopted.

Estimated direct increase in production costs; A reasonably accurate estimate of the percent increase in costs that would result directly from the establishment of various minimum rates can be obtained by multiplying the direct percent increase in the wage bill by the ratio of labor costs to value of products. 1/ From Table 17, it may be observed that the direct increase in production costs for the industry as a whole, as the result of the adoption of a 40-cent rate, would be less than five one hundredths of 1 percent. The estimated increase in any one branch of the industry, moreover, is also less than five one hundredths of 1 percent.

Some Qualifications Regarding Data on Wage Bill and Production Cost Increases

The computations of wage bill and cost increases derived from the questionnaire survey data are intended to indicate only the direct effects which would occur if the only changes in wages, employment or other labor conditions were those resulting directly from the adoption of the minimum wage rate.

Changes in efficiency are not taken into account, nor is any estimate made of possible indirect cost increases resulting from the payment of higher wages to workers who might seek to maintain their existing wage differentials over those employees who are directly affected. The importance of these indirect effects is contingent on a number of factors which do not lend themselves to statistical treatment. Of considerable importance in this respect are such factors as the nature of the wage distribution in each establishment, the occupational or social cohesion of the workers, the methods of wage payment, (whether piece or time rates), the normal bargaining power of each of the parties, and general business conditions which affect the ability of each employer to accede to further wage demands. At the present time, furthermore, wage rates of over 40 cents per hour can be raised only in accordance with War Labor Board orders and are sharply restricted in accordance with the President's recent Executive Order (No. 9328).

1/ The fact that value of products is different than cost of production does not significantly alter the conclusions in this analysis, except in those cases where profits or losses are proportionately exceptionally large.

Table 17. Vegetable fats and oils industry: Estimated percent increase in production cost which would result directly from the adoption of a 40 cent minimum hourly wage rate, by industry branch

Industry branch	Percent of employees affected	Percent of direct increase in wage bill	Labor cost ratio a/	Estimated percentage increase in production costs
All branches	3.4	0.2	5.4	*
Crude soybean oil	0.4	*	6.3	*
Crude and refined linseed oil	0.5	0.1	5.5	*
Olive oil	0	0	-	0
Other vegetable oils	0	0	-	0
Refined oils, fats and shortening	5.0	0.3	4.7	*
Oleomargarine	7.3	0.2	7.7	*

Source: Wage bill increases from Wage and Hour and Public Contracts Divisions Questionnaire Survey, October 1942; labor cost ratio from 1939 Census of Manufactures data.

a/ Ratio of all production, distribution, and supervisory salaries and wages, with the exception of salaries of officers of corporations, to value of products (expressed as a percentage.)

* Less than 0.05 percent.

Appendix Table 1. Detailed summary for selected commodities included in industry 929 - Vegetable and Animal Oils, not elsewhere classified

Item	Peanut oils	Animal oils	Other vegetable oils
Number of establishments	1/ 8	2/ 5	3/ 24
Proprietors and firm members	-	-	9
Persons reported by manufacturing establishments, total	135	69	591
Salaried officers of corporations	4	9	12
Manufacturing:			
Salaried employees	16	7	65
Wage earners (average for the year)	100	36	491
Distribution	13	15	17
Construction	2	-	6
Other	-	2	-
Salaries and wages, total	$76,909	$126,685	$949,178
Salaried officers	16,421	54,920	61,470
Manufacturing:			
Salaries	11,593	6,726	115,170
Wages	41,227	39,084	730,073
Distribution	7,278	24,384	31,086
Construction	390	-	11,379
Other	-	1,071	-
Cost of materials, supplies, containers, fuel, purchased electric energy and contract work, total	$709,479	$555,066	$12,028,885
Materials, supplies, and containers	691,242	537,905	11,790,217
Fuel	6,276	11,902	103,349
Purchased electric energy	11,961	5,259	135,319
Contract work	-	-	-
Value of products	4/ $822,476	5/ $743,044	6/ $15,141,693
Value added by manufacture	112,997	187,978	3,112,808

Source: Department of Commerce, Bureau of the Census, Census of Manufactures, 1939

1/ Alabama, 3 establishments; Georgia, 3; North Carolina, 1; and Virginia, 1.
2/ Delaware, 2 establishments; Indiana, 1; and Pennsylvania, 2.
3/ California, 10 establishments; Connecticut, 2; Florida, 1; Georgia, 1; Illinois, 2; Maryland, 1; Massachusetts, 1; Mississippi, 1; New Jersey, 2; Oregon, 1; Pennsylvania, 1; and Washington, 1.
4/ Peanut oil, $611,416; Peanut cake and meal, $200,776; Peanut hulls, etc., $10,284.
5/ Neatsfoot oil, $180,561; All other animal oils, $478,702; All other (marine-animal oils) $83,781.
6/ Cocoanut oil, $5,857,947; Cocoanut cake and meal, $1,248,899; Peanut oil, $895; Peanut cake and meal, $450; All other vegetable oils, $7,345,472; All other vegetable cake and meal, $595,250; All other animal oils, $5,100; Fish oil, $1,800; All other products, $85,880.

Appendix Table 2. Factory consumption of animal and vegetable fats and oils, during the fourth quarter of 1942, by classes of products

(Quantities in thousands of pounds)

Kind of fat or oil	Total for October, November, and December 1942	Used in refining	Fat splitting	Subjected to sulphonation	Shortening	Cooking and salad oils	Salad dressing, mayonnaise, etc.
Total		861,299	39,359	9,496	320,086	130,490	53,742
VEGETABLE OILS:							
Cottonseed, crude	569,743	569,166	-	42	-	-	-
Cottonseed, refined	392,221	-	-	930	184,079	115,857	27,157
Peanut, crude or virgin	27,188	27,100	-	22	-	-	-
Peanut, refined	11,355	-	-	375	6,236	2,004	-
Coconut, crude	23,140	10,165	258	1	-	-	-
Coconut, refined	8,310	-	150	6	17	-	-
Corn, crude	62,057	60,941	-	265	-	-	-
Corn, refined	25,826	-	-	30	294	1,604	21,890
Soybean, crude	197,532	190,879	180	83	-	-	-
Soybean, refined	163,361	-	-	180	91,882	10,584	4,695
Olive, edible	398	-	-	-	-	264	-
Olive, inedible	144	-	-	11	-	-	-
Olive, sulphur oil or olive foots	1,343	-	-	3	-	-	-
Palm kernel, crude	1/	-	-	-	-	-	-
Palm kernel, refined	85	-	-	-	-	-	-
Palm, crude	9,323	107	-	-	-	-	-
Palm, refined	2,003	-	-	4	1,238	-	-
Babassu, crude	2,904	662	-	-	-	-	-
Babassu, refined	745	-	59	-	-	-	-
Rapeseed	4,018	-	-	-	-	-	-
Linseed	125,593	-	259	3	-	-	-
China wood or tung	2,064	-	-	-	-	-	-
Perilla	443	-	-	-	-	-	-
Castor No. 1, crude	9,735	812	-	540	-	-	-
Castor No. 3, crude	5,558	-	1,040	1,675	-	-	-
Castor, dehydrated	5,400	-	-	-	-	-	-
Castor, sulphonated	1,867	-	-	-	-	-	-
Sesame	29	-	-	-	2	16	-
Oiticica	1,326	-	-	-	-	-	-
Other vegetable	7,188	-	-	353	5,665	161	-
ANIMAL FATS:							
Lard, rendered (include neutral lard and rendered pork fat)	16,721	-	-	-	13,273	-	-
Tallow, edible	18,142	-	-	2	16,167	-	-
Tallow, inedible	323,110	-	25,050	1,444	-	-	-
Neat's-foot oil	2,007	5	-	485	-	-	-
FISH AND MARINE MAMMAL OILS:							
Cod oil	2,489	-	-	445	-	-	-
Cod-liver oil	1,283	-	-	-	-	-	-
Other liver oil	749	-	-	19	-	-	-
Marine mammal oils	3,645	-	-	313	-	-	-
Fish oil	34,415	33	451	1,770	1,233	-	-
GREASES:							
Greases, other than wool	132,918	-	11,912	207	-	-	-
Wool grease	4,464	1,429	-	288	-	-	-

Source: U. S. Department of Commerce, Bureau of the Census

1/ Included in "Other vegetable."

Appendix Table 2. Factory consumption of animal and vegetable fats and oils, during the fourth quarter of 1942, by classes of products (continued)

(Quantities in thousands of pounds)

Kind of fat or oil	Oleomargarine	Other edible products	Soap	Paint and varnish	Linoleum and oilcloth	Printing inks	Lubricants, cutting oils, and greases	Other misc. products
Total	103,168	14,956	427,145	109,590	17,909	3,681	19,253	90,668
VEGETABLE OILS:								
Cottonseed, crude	-	-	299	-	-	1	148	87
Cottonseed, refined	55,773	7,217	78	227	-	13	174	716
Peanut, crude or virgin	-	-	54	5	-	-	1	6
Peanut, refined	126	1,646	48	-	-	-	113	807
Coconut, crude	-	-	12,525	-	-	-	1	190
Coconut, refined	-	32	4,277	2	-	-	-	3,826
Corn, crude	-	-	500	7	-	-	4	340
Corn, refined	446	1,135	127	11	-	1	58	230
Soybean, crude	-	-	2,181	954	56	4	50	3,145
Soybean, refined	44,223	2,951	2,504	4,466	44	25	89	1,718
Olive, edible	-	100	2	-	-	-	-	32
Olive, inedible	-	-	84	-	-	-	26	23
Olive, sulphur oil or olive foots	-	-	1,332	-	-	1	-	7
Palm kernel, crude	-	-	1/	-	-	-	-	1/
Palm kernel, refined	-	23	46	-	-	-	11	5
Palm, crude	-	-	4,669	-	-	-	2	4,545
Palm, refined	-	-	749	-	-	-	6	6
Babassu, crude	-	-	2,242	-	-	-	-	-
Babassu, refined	-	-	684	-	-	-	2	-
Rapeseed	-	-	-	14	-	-	3,318	686
Linseed	-	-	995	89,702	17,195	3,343	158	13,938
China wood or tung	-	-	-	1,837	-	3	11	213
Perilla	-	-	-	410	-	22	-	11
Castor No. 1, crude	-	-	81	942	26	9	87	7,238
Castor No. 3, crude	-	-	26	194	1	32	44	2,546
Castor, dehydrated	-	-	-	4,759	120	13	7	501
Castor, sulphonated	-	-	263	130	-	6	5	1,463
Sesame	-	-	8	-	-	-	-	3
Oiticica	-	-	-	940	-	73	-	313
Other vegetable	-	60	724	12	-	1	-	212
ANIMAL FATS:								
Lard, rendered (include neutral lard and rendered pork fat)	2,494	273	12	-	-	2	39	628
Tallow, edible	106	1,519	98	-	-	1	54	195
Tallow, inedible	-	-	286,214	2	-	13	6,544	3,843
Neat's-foot oil	-	-	1	5	-	-	201	1,310
FISH AND MARINE MAMMAL OILS:								
Cod oil	-	-	-	-	-	-	13	2,031
Cod-liver oil	-	-	-	-	-	-	-	1,283
Other liver oil	-	-	-	-	-	-	-	730
Marine mammal oils	-	-	1,863	-	-	-	1,290	179
Fish oil	-	-	16,813	4,930	467	21	1,362	7,335
GREASES:								
Greases, other than wool	-	-	87,646	31	-	60	4,076	28,986
Wool grease	-	-	-	10	-	37	1,359	1,341

Source: U. S. Department of Commerce, Bureau of the Census

1/ Included in "Other vegetable."

Appendix Table 3. Production and disappearance of specified fats and oils, crude basis, United States, 1940-42

Item	Production			Apparent domestic disappearance including military use		
	1940	1941	1942 a/	1940	1941	1942 a/
			Million	pounds		
Animal fats and oils						
Butter b/	2,240	2,268 c/	2,159	2,244	2,185	2,236
Lard and rendered pork fat b/	2,343	2,282 c/	2,500	1,979	1,967	1,922
Neat's-foot oil	4	4	5	6	7	7
Oleo oil	69	92	106	69	90	102
Oleo stearine and oleo stock	39	50	59	37	46	63
Tallow, edible	79	91	112	80	95	118
Tallow, inedible, and greases, excluding wool grease	1,375	1,551	1,740	1,234	1,649	1,852
Wool grease	10	13	15	11	17	16
Fish-liver oil	6	9	7	46	36	13
Fish oil	162	211	143	193	198	144
Marine mammal oil	20	1	d/	34	28	19
Total, animal	6,346	6,573	6,846	5,931	6,319	6,493
Vegetable oils						
Babassu oil	61	46	e/	60	41	34
Castor oil	100	155	147	90	157	146
Coconut oil	347	318	111	598	726	202
Corn oil	158	203	248	172	174	264
Cottonseed oil	1,274	1,392	1,386	1,378	1,566	1,402
Linseed oil	606	868	960	590	816	832
Olive oil, edible	4	10	7	53	22	16
Olive oil, inedible	—	—	—	6	3	d/
Olive oil, foots	—	—	—	17	11	4
Palm-kernel oil	13	e/	e/	12	7	2
Palm oil	—	—	—	181	292	131
Peanut oil	84	150	76	62	146	93
Perilla oil	—	—	—	20	9	4
Rape oil	—	—	—	13	9	19
Sesame oil	7	e/	e/	5	5	1
Soybean oil	533	586	762	499	556	718
Tung oil	1	5	5	68	70	17
Other vegetable oils f/	4	21	41	31	59	76
Total, vegetable	3,193	3,754	3,743	3,854	4,669	3,960
Grand total	9,538	10,326	10,589	9,785	10,988	10,453
Total from domestic materials	8,781	9,388	10,034	—	—	—

Source: Fats and Oils Situation, March 1943. Production compiled from reports of the Bureau of the Census, Bureau of Agricultural Economics, Food Distribution Administration, and Fish and Wildlife Service. Apparent domestic disappearance computed from data on production, trade (Bureau of the Census), and stocks (Bureau of the Census and Food Distribution Administration). Totals computed from unrounded numbers.

a/ Preliminary. b/ Including farm production

c/ Tentative; official estimate for farm production not yet available.

d/ Less than 500,000 pounds e/ Included in other vegetable oils.

f/ Includes cashew nut shell oil, Japan wax(tallow), murumuru-kernel oil, oiticica oil, sunflower oil, teaseed oil, tucum-kernel oil, vegetable tallow, and miscellaneous vegetable oils.

Appendix Table 4. Vegetable fats and oils industry: Distribution of employees according to average hourly earnings, by principal product

Average hourly earnings (cents)	All products	Crude soybean oil	Crude and refined linseed oil	Olive oil	Other vegetable oils	Cooking and other edible fats and oils	Oleomargarine
Less than 30.0	4	1	—	—	—	3	—
Exactly 30.0	33	—	1	—	—	32	—
30.1 to 30.9	—	—	—	—	—	—	—
31.0 to 31.9	—	—	—	—	—	—	—
32.0 to 32.9	13	1	—	—	—	12	—
33.0 to 33.9	7	—	1	—	—	6	—
34.0 to 34.9	1	—	1	—	—	—	—
35.0 to 35.9	73	2	—	—	—	60	11
36.0 to 36.9	8	—	—	—	—	8	—
37.0 to 37.9	19	—	—	—	—	19	—
38.0 to 38.9	103	—	—	—	—	95	8
39.0 to 39.9	1	1	—	—	—	—	—
Exactly 40.0	290	49	7	1	—	209	24
40.1 to 44.9	203	16	9	11	2	155	10
45.0 to 49.9	621	36	—	---	—	541	44
50.0 to 54.9	698	220	4	21	3	399	51
55.0 to 59.9	400	87	16	18	1	263	15
60.0 to 64.9	578	159	32	40	11	308	28
65.0 to 69.9	401	74	62	11	26	216	12
70.0 to 74.9	602	216	73	6	19	274	14
75.0 to 99.9	2214	433	280	7	326	1138	30
More than 100.0	1389	106	120	2	147	1002	12
Number of establishments in sample	112	23	16	6	14	48	5
Number of employees in sample	8000 a/	1480 b/	869 c/	117	535	4740	259
Average hourly earnings (cents)	74.9	70.9	83.7	61.2	95.6	73.6	57.0

Source: Questionnaire survey conducted by the Wage and Hour and Public Contracts Divisions

a/ Includes 342 employees earning more than 40 cents an hour not distributed according to average hourly earnings.

b/ Includes 79 employees earning more than 40 cents an hour not distributed according to average hourly earnings.

c/ Includes 263 employees earning more than 40 cents an hour not distributed according to average hourly earnings.

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